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<p>(21) International Application Number: PCT/BR93/00036 (22) International Filing Date: 20 October 1993 (20.10.93) (71)(72) Applicant and Inventor: CORRÊA, Marco, Aurélio, Moura de Faria [BR/BR]; Rua Sinimbú No. 117, Apt. 201, 91470-470-Porto Alegre, RS (BR).</p>		<p>(81) Designated States: DE, JP, US.  Published <i>With international search report.</i></p>
<p>(54) Title: SURGICAL INSTRUMENT TO PERFORM SUBCUTANEOUS ENDOSCOPIC SURGERY</p> <div data-bbox="503 1176 1193 1701"></div> <p data-bbox="1266 1176 1356 1659" style="writing-mode: vertical-rl; transform: rotate(180deg);">BEST AVAILABLE COPY</p> <p>(57) Abstract</p> <p>This invention is a medical surgical instrument to perform endoscopic plastic surgery without use of insuflatable gas techniques, avoiding the risk of gas embolization. This instrument has as a working head a blunt/sharp dissector with an optical system (4), illumination source (1), irrigation source (6), aspiration source (5), instrumentation channels (3) for cutting cauterization and suturing instruments, and channels for elevators/retractors (2) that can create a workspace at the subcutaneous tissue without use of gas.</p>		

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- 1 -

## SURGICAL INSTRUMENT TO PERFORM SUBCUTANEOUS ENDOSCOPIC SURGERY

This invent is a surgical instrument to perform endoscopic surgery in the subcutaneous tissue. It has a workhead that can perform the funções of visualization, irrigation, aspiracion, cutting, cauterization, instrumentation in the subcutaneous tissue, and can criate its own work space without use of insuflate gas.

The Endoscopic Surgery Technics has been used in General Surgery, Ginecology, Ortopedics, and its advantages over the tradicional surgical technics has been shwoed in these diferents fields.

Endoscopic Surgery Technique allow a more comfortable position to the surgeon; the amplification of images seen in the video monitor make it more safe; delicate procedures can be performed trough small incisions, all specific advantages so diserable in Cosmetic Plastic Surgery.

Videendoscopic technique has been developed in inner cavities and anatomical spaces that cam bee expanded by gases ( peritoneal and pleural cavities ) because a work space is required between the optical sisten and the tissues for the purposes of ilumunation, capture of images and execution of procedures.

Working at the subcutaneous tissue the surgeon necessary must cut a many vessels In this way the traditional

- 2 -

Endoscopic Gas Infusator Methods are a dangerous step due to the a risk of gas embolization, its dispersion and toxicity.

05 This device is a medical surgical instrument to be used in Endoscopic Plastic Surgery, the "so called " SUBCUTANEOUS TOMOSCOPE that allow to work at the subcutaneous tissue through small incision without use of gases because it can create its own work space avoiding the risk of gas embolous.

10 The characteristic of this instrument are a "workhead" like a nave or capsul that can perform a blunt/sharp dissection at the subcutaneous tissue under monitor view, and can perform Subcutaneous Endoscopic Surgery through accessory canals providing instrumentation source, light source, cut/cauterization, aspiration sources. It have  
15 separators/elevators and can create its own workspace, avoiding the use of insufflate gas technics and its risks.

Diferents prototypes were built and experimental surgery has been done on dogs, pigs, and cadaveres, and the  
20 viability of the method has been proved; we can perform axillary nodes and brachial plexus endoscopic exploration, the mapping out of a cutaneous flap through endoscopic plus transillumination view, flaps pedicles dissections, etc.

We have used this instrument to perform Aesthetic Plastic  
25 Surgery through small incisions and I have developed and described endoscopic technics to Abdominoplasty and Mammoplasty

- 3 -

The "so called" Subcutaneoustomoscope have the following advantages:

- a) Avoid the risk of gas embolization and toxicity of the Videolaparoscopic technique;
- 05 b) Provide dissection and visualization simultaneously
- c) bring to the Plastic Surgery the advantages of a minimal invasive surgery such as: less tissue trauma , decreased rates of infection, less hospitalization time, and a small scars so deserable when dealing with Cosmetic
- 10 Surgery.

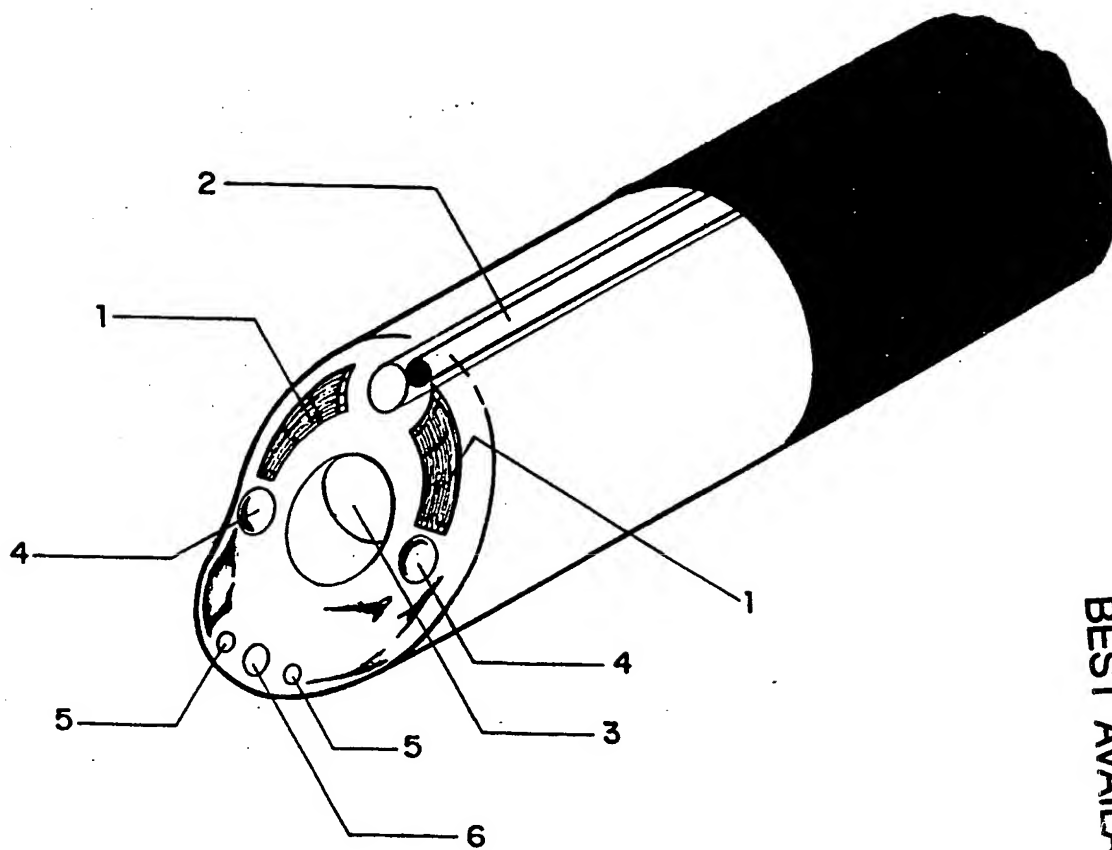
In order to help the full understanding of the conception of this instrument, it will be explained and presented by same simple designs.

- 4 -

## CLAIM

- 1- Medical Surgical Instrument to be used in Endoscopic Plastic Surgery without use of insufflatable gas avoiding the risk of gas embolization characterized by to be a
- 5- blunt/sharp dissector workhead (fig.) provided of a optical system (4), illumination source(1), irrigation source(6), aspiration source(5), a instrumentation channel to cut/cauterization/suture(3), and elevators/separators to create a subcutaneous workspace without use of gas.

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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/BR 93/00036

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 6 A61B17/02 A61B17/32 A61B17/34

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO,A,92 12680 (LASERSCOPE) 6 August 1992 see page 14, paragraph 2 - page 15, paragraph 3; figures 4,7-9 ---	1
A	WO,A,87 01276 (SONOMED) 12 March 1987 see page 25, paragraph 1; figures 4,6,7 ---	1
A	US,A,5 245 987 (REDMOND) 21 September 1993 see abstract; figures 1,6 ---	1
A	DE,C,35 04 292 (WOLF) 24 July 1986 see figure 4 ---	1
A	US,A,4 760 840 (FOURNIER) 2 August 1988 see figures 2,5,9 -----	1

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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# INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

PCT/BR 93/00036

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO-A-9212680	06-08-92	AU-A- 1418492	27-08-92
WO-A-8701276	12-03-87	US-A- 4750902	14-06-88
		CA-A- 1304639	07-07-92
		CA-A- 1318000	18-05-93
		DE-D- 3689308	23-12-93
		EP-A- 0233940	02-09-87
		JP-T- 63500850	31-03-88
		US-A- 4750488	14-06-88
		US-A- 4922902	08-05-90
US-A-5245987	21-09-93	WO-A- 9403114	17-02-94
DE-C-3504292	24-07-86	FR-A- 2577132	14-08-86
		GB-A, B 2170715	13-08-86
		US-A- 4686965	18-08-87
US-A-4760840	02-08-88	NONE	